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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/717,951 | 11/19/2003 | Dave Van Vliet | 60538/2:1 | 9021 |

52169 7590 08/23/2005

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| EXAMINER |
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PRINCE, FRED G

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| ART UNIT | PAPER NUMBER |
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1724

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/717,951

Applicant(s)

VAN VLIET ET AL.

Examiner

Fred Prince

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 24-31, 33-35 and 45-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 24-31, 33-35 and 45-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11, 04, 07, 12, 06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I and the species of Group IV in the reply filed on July 28, 2005 is acknowledged. The traversal is on the ground(s) that the claimed method is used within the claimed system. This is persuasive. Accordingly, claims 34 and 35, while withdrawn, will be examined on the merits by the examiner. The requirement is between groups I and III is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 2 recites the limitation "the water component" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 4, 24, 31, and 45-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Robert (EP 0748984).

Robert teaches operating an oxyhydrogen gas generator (1) within a waste treatment system (Figs. 1-2) to produce oxyhydrogen-rich gas (col. 4, lines 1-2); contacting at least a portion of the waste stream with at least a portion of the oxyhydrogen-rich gas to conduct a unit process for treating the waste stream (30); and conveying at least a portion of the oxyhydrogen-rich gas for a second use in the waste treatment system including a combustion unit (32; col. 4, lines 5-7), wherein the oxyhydrogen rich gas may be produced from an external water source (col. 5, lines 1-2) and wherein the oxyhydrogen rich gas may be the sole source of energy (col. 3, lines 44-48).

6. Claims 1-2, 24-28, 31, and 45-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Wesley (US Pat No 3,829,368).

Wesley teaches operating an oxyhydrogen gas generator (20) within a waste treatment system (col. 5, lines 66-73) to produce oxyhydrogen-rich gas (Figure); contacting at least a portion of the waste stream containing a water component with at least a portion of the oxyhydrogen-rich gas to conduct a unit process for treating the waste stream (col. 6, lines 37-54; col. 7, lines 42-47) and conveying at least a portion of the oxyhydrogen-rich gas for a second use in the waste treatment system including a fuel cell comprising a combustor (60), wherein the heat given may be recovered and used in the system (col. 7, lines 48-65), the exhaust contains water which is condensed (col. 4, lines 28-32), and wherein the oxyhydrogen rich gas may be the sole source of

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energy in a form including power generation (col. 2, lines 66-72; col. 3, lines 1-5), separating the oxyhydrogen gas (40, 50, 52).

7. Claims 1-2, 29, 30, 34-35, and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Mehl.

Mehl teaches operating an oxyhydrogen gas generator (10, 16) within a waste treatment system (col. 2, lines 68-72; Fig. 1) to produce oxyhydrogen-rich gas (col. 4, lines 70-73); contacting at least a portion of the waste stream containing a water component with at least a portion of the oxyhydrogen-rich gas to conduct a unit process for treating the waste stream including adhering bubbles to solids (col. 5, lines 61-72) and conveying at least a portion of the oxyhydrogen-rich gas for a second use in the waste treatment system in the form of an ozonization (44), wherein the waste is inherently "stabilized" due to the production of excess ozone.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Wesley or Mehl.

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Wesley and Mehl are described above. Neither reference disclose segregating a portion of a portion of the water to generate oxyhydrogen or using a pulsed electrical signal.

Per claim 3, it is submitted that it is well known in the art to provide only a portion of water to an oxyhydrogen generator in order to, for instance, control the concentration of desired chemicals in the water (see, for example, US Pat No 2,882,210 to Jenks).

Accordingly, it would have been readily obvious for the skilled artisan to modify either method of Wesley or Mehl such that the method includes providing only a portion of water to an oxyhydrogen generator in order to, for instance, control the concentration of desired chemicals in the water, as known in the art.

Per claim 33, it submitted that it is well known in the art to provide a pulsed electrical signal to electrodes in order to, for example, selectively degrade contaminants in wastewater (see, for example, US Pat No 4,140,609 to Zucker or US Pat No 5,549,812 to Witt a.k.a. Witte).

Accordingly, it would have been readily obvious for the skilled artisan to modify either method of Wesley or Mehl such that the method includes providing a pulsed electrical signal to electrodes in order to, for example, selectively degrade contaminants in wastewater, as known in the art.

10. Claims 29-30 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wesley in view of Mehl (US Pat No 3,523,891).

Wesley is described above. Neither reference discloses converting a portion of the oxygen to ozone for disinfection or using the oxygen to fulfill oxygen demand.

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Mehl discloses using electrolysis (10) to produce oxygen and hydrogen bubbles, the oxygen bubbles inherently leaving the water after they reach the water surface and being entrained in the gas drawn out by vacuum (30), and converting a portion of the oxygen to ozone (44) for disinfecting sewage and using the oxygen to fulfill oxygen demand (col. 2, lines 27-31).

It is submitted that it would have been readily obvious for the skilled artisan to modify the method of either Robert or Wesley by converting a portion of the oxygen to ozone for disinfecting sewage and using the oxygen to fulfill oxygen demand, as shown by Mehl.

Conclusion


11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References are cited of interest to show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Prince whose telephone number is (571) 272-1165. The examiner can normally be reached on Monday-Thursday, 6:30-4:00; alt. Fridays 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Fred Prince
Primary Examiner
Art Unit 1724

fgp
8/19/05